

**PAINT COMPRESSOR STATION  
BUNDLED SITES  
CHARACTERIZATION REPORT/  
RESPONSE ACTION WORK PLAN**

WAYNE COUNTY, OHIO

7 OCTOBER 1999

REVISION NO. 1  
8 FEBRUARY 2000

Prepared for:

COLUMBIA GAS TRANSMISSION CORPORATION


Prepared By:

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(b) (4)



Manager in Charge



Environmental Standards, Inc.

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Data Management and Verification  
Manager

Background – Three background samples (PNT-ASU005-70001 through PNT-ASU007-70001) were collected during the site characterization and analyzed for arsenic. Arsenic was detected in all three samples, ranging in concentration from 7.4 mg/kg to 28 mg/kg. The average of these three background samples was 17.8 mg/kg. A background concentration of 35.6 mg/kg for arsenic was calculated. A background calculation worksheet is provided in Appendix E.

PRA No. 1 – AT – 100 bbl Pipeline Liquids – Soil sample PNT-ASB001-70001 had a detectable arsenic concentration in soil collected from the 2.5-foot bgs level of 44 mg/kg. This concentration is greater than both the CAL (0.43 mg/g) and the calculated background concentration (35.6 mg/kg).

PRA No. 3 – UT – 1,000 gallon Used/Recycled Glycol – Soil boring PNT-ASU003 had a detectable arsenic concentration in soil collected from the 9.5-10.0 foot bgs interval of 95.0 mg/kg. This concentration is greater than the CAL of 0.43 mg/kg and site background concentration of 35.6 mg/kg.

### 3.2.2 Quality Assurance/Quality Control Criteria Assessment

The following is a summary of the overall QA/QC criteria assessment for analytical data generated as a result of the Creston Compressor Station site characterization. This summary reflects the general trends throughout the sampling seats at the site contained within batches COC0107013 and COC0107014. To facilitate review of the automated QA QC assessments the discussion has been separated into the following criteria:

**Holding Time:** All holding time criteria were met for all reported analyses. Data qualification is not necessary due to holding time considerations.

#### 4.3.1 Evaluation of Soil

The first two steps of the site evaluation process depicted in Figure 3-1, comparison to residential CALs was conducted in Section 3. The next step of the process is to evaluate the site data using industrial Response Action Levels (RALs), where appropriate. Paint CS is expected to remain Columbia's property in the future and is fenced; therefore, industrial RALs are appropriate.

As indicated in Table 3-1, there are three scenarios for industrial RALs. For this site, Scenario B that assumes that an employee is present at the site 150 days per year (3 days per week) is appropriate. Therefore, the industrial RAL for Arsenic is 63 mg/kg.

PRA #1 – AT – 100 bbl Pipeline Liquids – PRA# 1 is located outside the fenced portion of the site. Therefore, industrial RALs are not appropriate for this area. The concentrations of Arsenic in sample PNT-ASB001-70001 (2.5 feet bgs) is 44 mg/kg, which is greater than both the CAL of 0.43 mg/kg and the background concentration of 35.6 mg/kg. The fourth step of the process is to calculate site concentrations (as described in Section 3.1 and in detail in Appendix F). The site concentrations for Arsenic in four areas outside the fence have been calculated and are presented in Appendix F. The site concentration in soil outside the fence for Arsenic is 44 mg/kg, which is greater than the CAL of 0.43 mg/kg. Therefore, further action is recommended for this PRA based on the Arsenic concentration.

PRA #3 – UT – 1,000 Gallon Used/Recycled Glycol – PRA #3 is located inside of the fenced area. Therefore, industrial RALs are appropriate for this portion of the site. The concentration of Arsenic in sample PNT-ASU003-70001 (surface) is 95 mg/kg, which is greater than the industrial RAL of 63 mg/kg.

The fourth step of the process is to calculate site concentrations (as described in Section 3.1 and in detail in Appendix F). The site concentrations for Arsenic in areas inside the fence have been calculated and are presented in Appendix F. The site concentration in soil inside the fence for Arsenic is 39.3 mg/kg, which is less than the RAL of 63 mg/kg. Therefore, no further action is required for this PRA based on the Arsenic concentration.

PRA #4 – Southwest Drainage Channel – This PRA was not sampled during the site characterization because legal right of entry was not on record. However, no on-site releases were identified; therefore, there is no reason to believe there are off-site exceedances. No further action is recommended for this PRA.

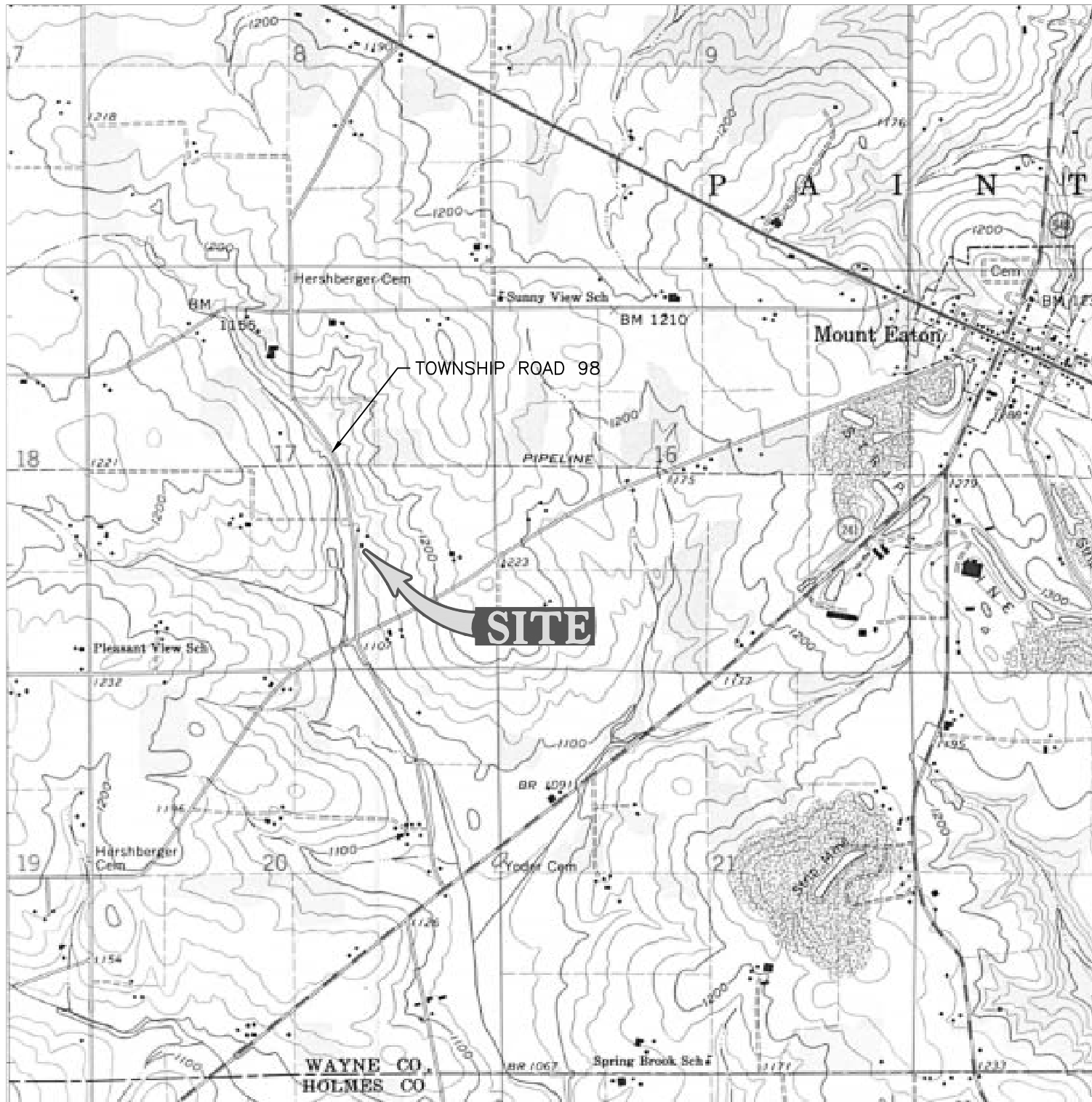
#### 4.3.2 PRAs and Site Areas Recommended for Response Actions

Based on the comparison to the CALs used in the AOC program, and the risk-based evaluation of the site, one PRA and site area, PRA #1 for Arsenic, is recommended for a response action to satisfy the requirements of the AOC program

#### **4.4 Summary of Ohio Voluntary Action Program (VAP) Screening for the Site**

In addition to the site evaluation presented above and in Section 3, which were conducted to meet the requirements of the AOC, Columbia has voluntarily opted to evaluate the site under the most relevant state regulatory program, in this case, the Ohio Voluntary Action Program (VAP). A summary of the program, and the risk screening for all of the Paint CS PRAs, which was conducted under the VAP program is provided in Appendix G and summarized here. Concentrations of constituents in combined site soils (surface and subsurface) were evaluated in the VAP screening. Generic VAP standards for industrial use were used for evaluation of on-site soils and standards for residential use were used for soils outside the fence.

P:\PROJECTS\98320\0300\DWG\FIG-1.dwg J\_KEELING - JULY 15, 1999 - 16:12:21 XREFS:



1000 500 0 500 1000 2000  
SCALE: 1"=2000'



SOURCE: USGS 7.5 MINUTE QUADRANGLE WILMOT, OHIO, 1961 PHOTOREVISED 1992.



**Civil & Environmental Consultants, Inc.**

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### Site Location Map

COLUMBIA GAS TRANSMISSION CORPORATION  
PAINT COMPRESSOR STATION

Wayne County, Ohio

DWN. BY: JK

SCALE:

DATE:

PROJECT NO:

FIGURE NO:

CHKD. BY: HMM

AS SHOWN

JAN. 1999

98320

1



**Table 4**  
**Summary of Analytical Results**

		PRA	<b>0</b>					
		PRA Description	<b>BACKGROUND SAMPLES</b>					
		Sample Type	<b>Normal Sample</b>					
		Sample Id	<b>PNT-ASU005-70001</b>	<b>PNT-ASU006-70001</b>		<b>PNT-ASU007-70001</b>		
		Depth - ft bgs	<b>5 - 5</b>	<b>5 - 5</b>		<b>5 - 5</b>		
		Collected Date	<b>06/15/98</b>	<b>06/16/98</b>		<b>06/16/98</b>		
		Laboratory	<b>Kemron Environmental Services</b>	<b>Kemron Environmental Services</b>		<b>Kemron Environmental Services</b>		
		Sample Collector	<b>Civil + Environmental Cons.</b>	<b>Civil + Environmental Cons.</b>		<b>Civil + Environmental Cons.</b>		
		Result Units	<b>MG/KG</b>	<b>MG/KG</b>		<b>MG/KG</b>		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
<b>VOA</b>	<b>TOLUENE</b>	16000						
	<b>ETHYL BENZENE</b>	7800						
	<b>XYLENES (TOTAL)</b>	1000000						
<b>METAL</b>	<b>ARSENIC, TOTAL</b>	.43	28.0 J	X	7.4	X	18.0	X

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4**  
**Summary of Analytical Results**

		PRA						
		PRA Description	RANDOM PCB SAMPLES					
		Sample Type	Normal Sample					
		Sample Id	PNT-ASS003-40001		PNT-ASS004-40001		PNT-ASS005-40001	
		Depth - ft bgs	0 - .5		0 - .5		0 - .5	
		Collected Date	06/16/98		06/16/98		06/16/98	
		Laboratory	Kemron Environmental Services		Kemron Environmental Services		Kemron Environmental Services	
		Sample Collector	Civil + Environmental Cons.		Civil + Environmental Cons.		Civil + Environmental Cons.	
		Result Units	MG/KG		MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000						
	ETHYL BENZENE	7800						
	XYLENES (TOTAL)	1000000						
METAL	ARSENIC, TOTAL	.43						

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.



**Table 4**  
**Summary of Analytical Results**

		PRA	1					
		PRA Description	PRA #1 100 BBL PIPELINE FLUIDS AT					
		Sample Type	Normal Sample					
		Sample Id	PNT-ASS006-40001	PNT-ASB001-40001		PNT-ASB001-70001		
		Depth - ft bgs	0 - .5	0 - 1		2.5 - 2.5		
		Collected Date	06/16/98	06/15/98		06/15/98		
		Laboratory	Kemron Environmental Services	Kemron Environmental Services		Kemron Environmental Services		
		Sample Collector	Civil + Environmental Cons.	Civil + Environmental Cons.		Civil + Environmental Cons.		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000			ND		ND	
	ETHYL BENZENE	7800			ND		ND	
	XYLENES (TOTAL)	1000000			ND		ND	
METAL	ARSENIC, TOTAL	.43			15.0 J	X	44.0 J	X

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

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**Table 4**  
**Summary of Analytical Results**

		PRA	2					
		PRA Description	PRA #2 500-GALLON PIPELINE FLUIDS UT					
		Sample Type	Normal Sample					
		Sample Id	PNT-ASB001-70002	PNT-ASS001-40001		PNT-ASU001-70001		
		Depth - ft bgs	5 - 5	0 - 1		0 - 0		
		Collected Date	06/15/98	06/15/98		06/15/98		
		Laboratory	Kemron Environmental Services	Kemron Environmental Services		Kemron Environmental Services		
		Sample Collector	Civil + Environmental Cons.	Civil + Environmental Cons.		Civil + Environmental Cons.		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000	ND		ND		ND	
	ETHYL BENZENE	7800	ND		ND		ND	
	XYLENES (TOTAL)	1000000	ND		ND		ND	
METAL	ARSENIC, TOTAL	.43	28.0 J	X				

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4  
Summary of Analytical Results**

		PRA	3					
		PRA Description	PRA #3 1,000-GALLON USED/RECYCLED GLYCOL UT					
		Sample Type	Normal Sample					
		Sample Id	PNT-ASU002-70001	PNT-ASS002-40001		PNT-ASU003-70001		
		Depth - ft bgs	0 - 0	0 - 1		9.5-10		
		Collected Date	06/15/98	06/15/98		06/15/98		
		Laboratory	Kemron Environmental Services	Kemron Environmental Services		Kemron Environmental Services		
		Sample Collector	Civil + Environmental Cons.	Civil + Environmental Cons.		Civil + Environmental Cons.		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000	ND		ND		ND	
	ETHYL BENZENE	7800	ND		ND		ND	
	XYLENES (TOTAL)	1000000	ND		ND		ND	
METAL	ARSENIC, TOTAL	.43			25.0 J	X	95.0 J	X

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4**  
**Summary of Analytical Results**

		PRA	5					
		PRA Description	PRA #5 WEST DRAINAGE CHANNEL					
		Sample Type	Field Duplicate (Rep)					
		Sample Id	PNT-ASU004-70001	PNT-ASD004-31001		PNT-ASD005-31001		
		Depth - ft bgs	0 - 0	0 - 1		0 - 1		
		Collected Date	06/15/98	06/16/98		06/16/98		
		Laboratory	Kemron Environmental Services	Kemron Environmental Services		Kemron Environmental Services		
		Sample Collector	Civil + Environmental Cons.	Civil + Environmental Cons.		Civil + Environmental Cons.		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000	ND		ND		ND	
	ETHYL BENZENE	7800	ND		ND		ND	
	XYLENES (TOTAL)	1000000	ND		ND		ND	
METAL	ARSENIC, TOTAL	.43	22.0 J	X	4.1	X	16.0 J	X

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4**  
**Summary of Analytical Results**

		PRA				6		
		PRA Description				PRA #6 ENGINE NOS. 1 AND 2 CO		
		Sample Type	Normal Sample				Normal Sample	
		Sample Id	PNT-ASD004-30001		PNT-ASD005-30001		PNT-ASB002-40001	
		Depth - ft bgs	0 - 1		0 - 1		0 - 1	
		Collected Date	06/16/98		06/16/98		06/15/98	
		Laboratory	Kemron Environmental Services		Kemron Environmental Services		Kemron Environmental Services	
		Sample Collector	Civil + Environmental Cons.		Civil + Environmental Cons.		Civil + Environmental Cons.	
		Result Units	MG/KG		MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000	ND		ND		ND	
	ETHYL BENZENE	7800	ND		ND		ND	
	XYLENES (TOTAL)	1000000	ND		ND		ND	
METAL	ARSENIC, TOTAL	.43	6.8	X	10.0 J	X		

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4**  
**Summary of Analytical Results**

		PRA						
		PRA Description <b>OOLERS</b>						
		Sample Type						
		Sample Id	PNT-ASB002-70001		PNT-ASB002-70002		PNT-ASB003-40001	
		Depth - ft bgs	2.5 - 2.5		5 - 5		0 - 1	
		Collected Date	06/15/98		06/15/98		06/15/98	
		Laboratory	Kemron Environmental Services		Kemron Environmental Services		Kemron Environmental Services	
		Sample Collector	Civil + Environmental Cons.		Civil + Environmental Cons.		Civil + Environmental Cons.	
		Result Units	MG/KG		MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000	0.006		0.024		ND	
	ETHYL BENZENE	7800	ND		ND		ND	
	XYLENES (TOTAL)	1000000	0.021		ND		ND	
METAL	ARSENIC, TOTAL	.43						

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4**  
**Summary of Analytical Results**

		PRA			7			
		PRA Description			PRA #7 REBOILER UNIT			
		Sample Type			Field Duplicate (Rep)			
		Sample Id	PNT-ASB003-70001	PNT-ASB003-70002	PNT-ASB004-41001			
		Depth - ft bgs	2.5 - 2.5	5 - 5	0 - 1			
		Collected Date	06/15/98	06/15/98	06/15/98			
		Laboratory	Kemron Environmental Services	Kemron Environmental Services	Kemron Environmental Services			
		Sample Collector	Civil + Environmental Cons.	Civil + Environmental Cons.	Civil + Environmental Cons.			
		Result Units	MG/KG	MG/KG	MG/KG			
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000	ND		ND		ND	
	ETHYL BENZENE	7800	ND		ND		ND	
	XYLENES (TOTAL)	1000000	ND		ND		ND	
METAL	ARSENIC, TOTAL	.43					9.9 J	X

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4**  
**Summary of Analytical Results**

		PRA						
		PRA Description						
		Sample Type					Normal Sample	
		Sample Id	PNT-ASB004-71002		PNT-ASS008-41001		PNT-ASB004-40001	
		Depth - ft bgs	5 - 5		0 - 1		0 - 1	
		Collected Date	06/15/98		06/16/98		06/15/98	
		Laboratory	Kemron Environmental Services		Kemron Environmental Services		Kemron Environmental Services	
		Sample Collector	Civil + Environmental Cons.		Civil + Environmental Cons.		Civil + Environmental Cons.	
		Result Units	MG/KG		MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000	ND		ND		ND	
	ETHYL BENZENE	7800	ND		ND		ND	
	XYLENES (TOTAL)	1000000	ND		ND		ND	
METAL	ARSENIC, TOTAL	.43	19.0 J	X	15.0	X	12.0 J	X

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.



**Table 4**  
**Summary of Analytical Results**

		PRA						
		PRA Description						
		Sample Type						
		Sample Id	PNT-ASB004-70001		PNT-ASB004-70002		PNT-ASS008-40001	
		Depth - ft bgs	2.5 - 2.5		5 - 5		0 - 1	
		Collected Date	06/15/98		06/15/98		06/16/98	
		Laboratory	Kemron Environmental Services		Kemron Environmental Services		Kemron Environmental Services	
		Sample Collector	Civil + Environmental Cons.		Civil + Environmental Cons.		Civil + Environmental Cons.	
		Result Units	MG/KG		MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000	ND		ND		ND	
	ETHYL BENZENE	7800	ND		ND		ND	
	XYLENES (TOTAL)	1000000	ND		ND		ND	
METAL	ARSENIC, TOTAL	.43	10.0 J	X	27.0 J	X	13.0	X

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4**  
**Summary of Analytical Results**

		PRA	8					
		PRA Description	PRA #8 DOGHOUSE OIL COLLECTOR					
		Sample Type	Field Duplicate (Rep)				Normal Sample	
		Sample Id	PNT-ASB005-41001		PNT-ASB005-71002		PNT-ASB005-40001	
		Depth - ft bgs	0 - 1		5 - 5		0 - 1	
		Collected Date	06/15/98		06/15/98		06/15/98	
		Laboratory	Kemron Environmental Services		Kemron Environmental Services		Kemron Environmental Services	
		Sample Collector	Civil + Environmental Cons.		Civil + Environmental Cons.		Civil + Environmental Cons.	
		Result Units	MG/KG		MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000	ND		ND		ND	
	ETHYL BENZENE	7800	ND		ND		ND	
	XYLENES (TOTAL)	1000000	ND		ND		ND	
METAL	ARSENIC, TOTAL	.43						

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4**  
**Summary of Analytical Results**

		PRA			9			
		PRA Description			PRA #9 CONTACTOR UNIT			
		Sample Type			Normal Sample			
		Sample Id	PNT-ASB005-70001	PNT-ASB005-70002	PNT-ASS007-40001			
		Depth - ft bgs	2.5 - 2.5	5 - 5	0 - 1			
		Collected Date	06/15/98	06/15/98	06/16/98			
		Laboratory	Kemron Environmental Services	Kemron Environmental Services	Kemron Environmental Services			
		Sample Collector	Civil + Environmental Cons.	Civil + Environmental Cons.	Civil + Environmental Cons.			
		Result Units	MG/KG	MG/KG	MG/KG			
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	TOLUENE	16000	ND		ND		ND	
	ETHYL BENZENE	7800	0.016		ND		ND	
	XYLENES (TOTAL)	1000000	0.007		ND		ND	
METAL	ARSENIC, TOTAL	.43					6.6	X

Notes:

\* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

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APPENDIX E  
BACKGROUND WORKSHEET

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### **SITE BACKGROUND CALCULATIONS**

The following table presents the site background calculation for arsenic.

Background sample	Arsenic (mg/kg)
PNT-ASU005-70001	28.0
PNT-ASU006-70001	7.4
PNT-ASU007-70001	18.0
Total	53.4
Average	17.8
Multiplied by 2	35.6

#### NOTES:

Calculations based on: "Data Collection and Evaluation, Human Health Risk Assessment Bulletin, No. 2., Supplemental Guidance to RAGs," Office Technical Services, U.S. EPA Region IV, October 1996.

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APPENDIX H  
SOIL BORING LOGS

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